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File Code: 3460 **Date:** March 18, 1998
Route To:

Subject: Black Cherry Health Assessment, Allegheny National Forest - 1997

To: Forest Supervisor
Allegheny NF

Our assessment indicates that a large majority of the black cherry resource on your Forest was healthy at the end of last summer. We have been following the status and trend of black cherry crown condition for the period 1995 to 1997. This assessment was made as a consequence of the series of recent natural disturbances, the most notable being moderate to severe defoliations by cherry scallop shell moth infestations from 1993 through 1995.

The assessment was conducted in black cherry stands that had experienced two and three years of moderate to severe defoliation from the cherry scallop shell moth. Stands with this disturbance history were selected to describe how the black cherry health had changed in stands with the most frequent and severest of the disturbances. It was assumed that fewer or less severe disturbances would have much reduced consequences on black cherry health.

Five stands were initially established for the assessment on the Marienville RD in 1995. An additional stand on what is now the Bradford RD was established in each of 1996 and 1997 to broaden the area covered by the assessment. The field survey in 1997 was conducted at the end of the growing season using 16 or 20, 10 BAF prism plots in each stand to select the black cherry trees.

The same protocols as presented in the report we sent you on April 28, 1997, were followed to characterize black cherry health. This involved basing black cherry health on observations of crown condition. Individual black cherry trees that were selected were each rated as to crown vigor (6 classes) and crown dieback (10-percent classes).

Our findings indicate a lack of evidence for any major decline or mortality of the black cherry resource on the Allegheny NF associated with the last cherry scallop shell moth infestation. Refer to the attached chart for the trend in the black cherry crown vigor ratings for each of the three survey years. Overall, most of the black cherry resource (84%) is healthy or showed only light decline in crown vigor in our 1997 survey. There has been a gradual improvement each year from 1995 through 1997 in the proportion of the black cherry trees within the healthiest class (38% to 62%). Furthermore, the combined moderate and severe crown decline classes had a slight decrease in values in 1997 (16%) compared with 1996 (12%). Only the proportion of dead trees (3%) remained static over this period.

The proportion of black cherry trees with crown dieback greater than 30 percent remained at about 11% from 1996 to 1997. Trees with mostly dead crowns remained in the minority at 4% following both the 1996 and 1997 growing seasons. Almost all (90%) of these were poletimber or small sawlog sized black cherry trees.

Several observations were made for the first time in 1997 to determine some factors other than defoliation that might influence adversely any future black cherry crown condition. These include three observations about competition from tolerant tree species and black cherry seed production. To assess competition, we determined the crown position in the forest canopy and the crown size relative to surrounding trees for each black cherry tree sampled. At each plot, we also measured the basal area occupied by all tree species. We added an observation about seed production for each black cherry in 1997 because heavy seed crops may influence crown dieback ratings. At this time, we have not completed the analyses of these variables, but will present our findings at a later date.

Because of the overall healthy condition for most of the black cherry resource on your Forest, we recommend delaying another black cherry health assessment until after the 1999 growing season.

DANIEL B. TWARDUS
Acting Field Representative
Forest Health Protection

Attachment:

cc: Bradford RD
Marienville RD
Hazel, AO

PAR/REA/blm

ANF Black Cherry Crown Vigor